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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/708,785	03/25/2004	Hsin-Shih Wang	FTCP0027USA	2784
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MERRIFIELD, VA 22116			ART UNIT	PAPER NUMBER
		3729		
		•	NOTIFICATION DATE	DELIVERY MODE
		•	05/14/2007	ELECTRONIC

## Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

winstonhsu.uspto@gmail.com
Patent.admin.uspto.Rcv@naipo.com
mis.ap.uspto@naipo.com.tw

Application No.    Application No.   In 10703,785   WANG ET AL.	$\mathbb{H}$						
Examiner Tim Phan  - The MAILING DATE of this communication appears on the cover sheet with the correspondence address =  - Period for Repty  A SHORTENED STATUTORY PERIOD FOR REPLY IS DET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  - Estates and time may be available under the provisions of 37 CPR 1.136(a). In one event, however, may a reply the brindy little after St (30) MONTH is from the maining date of the communication.  - Falure to reply within the est or estanded period for may's will, by static, cause the application to become AlanchoneCD (39 U.S.C. § 139).  - Application by which the est or estanded period for may's will, by static, cause the application to become AlanchoneCD (39 U.S.C. § 139).  - Application is static in its FINAL.  - 2DID This action is final matters, prosecution as to the merits is diosed in accordance with the practice under Exparte Quayle, 1935 C.D. 11, 453 O.G. 213.  - Disposition of Claims  - 4) Claim(s) 1-1g is/are pending in the application.  - 4a) Of the above claim(s) is/are withdrawn from consideration.  - 5   Claim(s) 1-1g is/are allowed.  - 6) Claim(s) 1-1g is/are objected to by the Examiner.  - Application Papers  - 9) The specification is objected to by the Examiner.  - Application Papers  - 9) The specification is objected to by the Examiner.  - Application Papers  - 9) The specification is objected to by the Examiner.  - Application Papers  - 9) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  - a) All by Correct of the priority documents have been received in Application No.  - 1 Certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  - See the attached detailed Office action for a list of the certified copies not received.		Application No. Applic		Applicant(s)	cant(s)		
Tim Phan 3729  - The MAILING DATE of this communication appears on the cover sheet with the correspondence address - Period for Repty  A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.  Extension of term say be available under be precisived of 3 CPR 1738(c) in one sets, however, may reply be trained light of the correction of the provided above. The maximum statutory pariod will apply and will occur 5X (8) MONTH'S from the mailing date of the communication. Failure to eight with the stor extended bened for reply is procedured bened for reply in the story extended benediction and the story and the replace any standed benediction to story the story of the story of the story extended benediction and the story of th		10/708,785		WANG ET AL.			
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2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.  3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.  Disposition of Claims  4) ☑ Claim(s) 1.16 is/are pending in the application.  4a) Of the above claim(s) ☐ is/are withdrawn from consideration.  5) ☐ Claim(s) ☐ is/are allowed.  6) ☑ Claim(s) 1.213 is/are objected to.  8) ☐ Claim(s) 2.13 is/are objected to.  8) ☐ Claim(s) 2.13 is/are objected to restriction and/or election requirement.  Application Papers  9) ☐ The specification is objected to by the Examiner.  10) ☒ The drawing(s) filed on 25 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.  Priority under 35 U.S.C. § 119  12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  a) ☐ All b) ☐ Some * c) ☐ None of:  1. ☐ Certified copies of the priority documents have been received.  2. ☐ Certified copies of the priority documents have been received in Application No. ☐ application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.	Status						
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a) All b) Some * c) None of:  1. Certified copies of the priority documents have been received.  2. Certified copies of the priority documents have been received in Application No.  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  * See the attached detailed Office action for a list of the certified copies not received.  Attachment(s)  1) Notice of References Cited (PTO-892)  2) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Priority under 35 U.S.C. § 119						
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 4) Interview Summary (PTO-413) Paper No(s)/Mail Date.	a) All b) Some * c) None of:  1. Certified copies of the priority docume  2. Certified copies of the priority docume  3. Copies of the certified copies of the priority docume  application from the International Bure	ents have been ents have been riority documer eau (PCT Rule	received. received in Applications have been received 17.2(a)).	ion No ed in this Nationa	l Stage .		
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Paper No(s)/Mail Date 6)  Other:	2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 3) Information Disclosure Statement(s) (PTO/SB/08)		Paper No(s)/Mail D  Notice of Informal F	ate			

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#### **DETAILED ACTION**

1. The amendment filed on 10/10/05 has been fully considered and made of record.

### Claim Rejections - 35 USC § 103

- 2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
  - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 3. Claims 1 and 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Protel 99 SE Supplement Handbook (Copyright 1999) hereinafter '999.

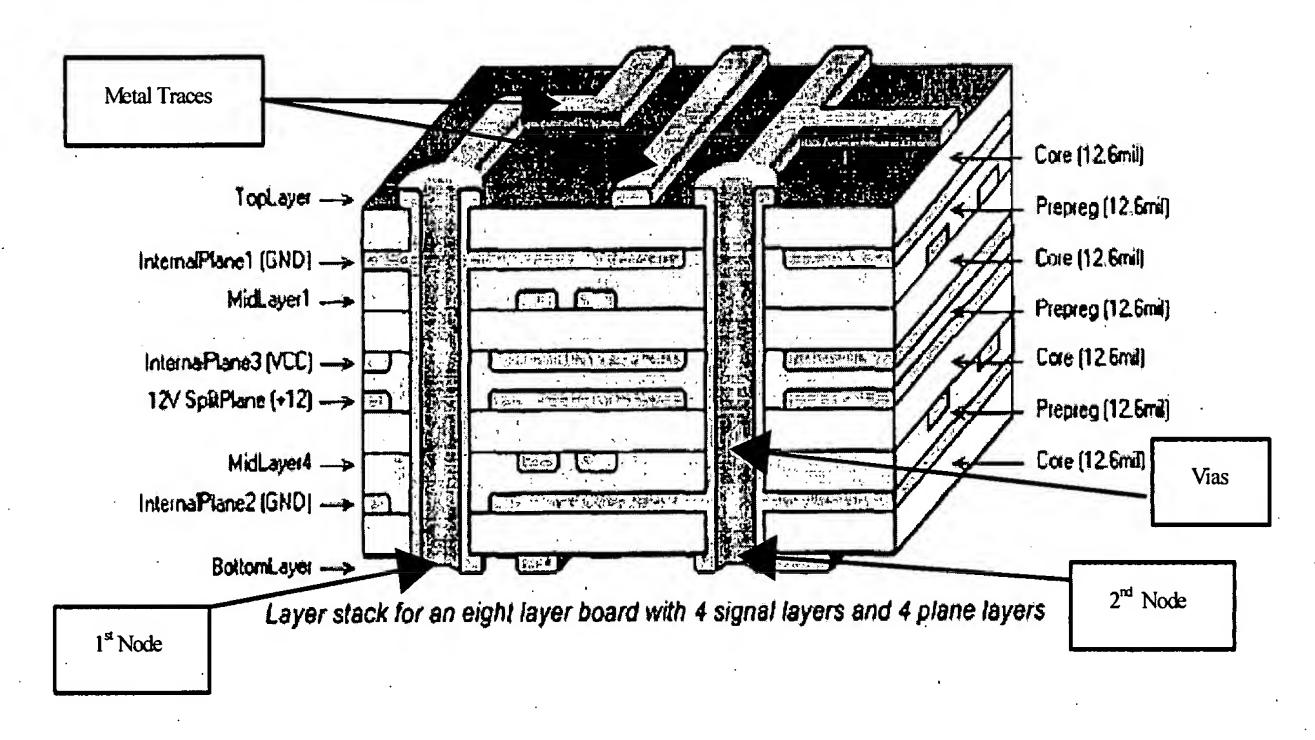
With regard to Claim 1, the '999 teaches a process of design PCB layout, comprising:

- (a) forming a plurality of metal traces (Figure on Page 4, see below) on a first routing layer (Top layer) and a second routing layer (Bottom Layer); and
- (b) positioning a plurality of vias (Figure on Page 4, see below) within a via layer disposed between the first and second routing layers for connecting the metal traces on the first and second routing layers according to a first current route defined by a predetermined circuit layout design (Page 14, 3<sup>rd</sup> paragraph) by basic dynamic reconnect used for interfacing a first node (Figure on Page 4, see below) and a second node (Figure

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on Page 4, see below) of circuit so as to establish a second current route (Page 14, 5<sup>th</sup> paragraph) through smart dynamic reconnect feature equivalent to the first current route; except for describing a connection of a first node and a second node to a circuit.

It would be obvious to one of ordinary skill in the art at the time the invention was made to have a connection between a first node and second node or several other nodes in a circuit, especially in a multilayer printed circuit board where the nodes are well known to be applied as interconnection between layers in the circuitry of the PCB.



With regard to Claim 14, the '999 teaches a multilayer circuit board including the metal traces on the first routing layer and the corresponding metal traces on the second routing layer, which reads on applicants' claimed invention; except for claiming these two metal traces to have

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substantially the same lengths.

It would be obvious to one of ordinary skill in the art at the time the invention was made to have some of the metal traces to have substantially the same lengths because in the multilayer PCB there can be many metal traces in each routing layer and each of them corresponds or interfaces with others through data transfer, power feeding or grounding. Therefore some of these metal traces are obviously of the same metal length.

With regard to Claim 15, the '999 teaches a multilayer circuit board (Figure on Page 4, see above).

With regard to Claim 16, the '999 teaches a multilayer circuit board (Figure on Page 4, see above), which is well known to be integrated in a complex circuitry system of a semiconductor device such as a complex microprocessor that has many multilayers of circuitry.

## Allowable Subject Matter

4. Claims 2-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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### Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicants' disclosure.

Applicants' amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tim Phan whose telephone number is 571-272-4568. The examiner can normally be reached on M & Tu, 6AM - 2PM, and W & Th, 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 571-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tim Phan
Examiner
Art Unit 3729

tp May 8, 2007 A. DEXTER TUGBANG PRIMARY EXAMINED